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. EDITORIAL .

Different Viewpoints

Recently, there crossed the desk of this writer two articles of widely different character, both by men more or less in the public eye, which, when analyzed, show a similarity. They do, however, represent two different viewspoints concerning the manner in which one should consider both world and home affairs.

The first was by that well-known humorist, Stephen Leacock, formerly professor of political economy at McGill University, and the other was by the president of our Society, Kris A. Mapp, F.C.A.

The article by Mr. Leacock appeared first in the New York Times magazine of August 7th, and was later discussed in the August issue of The Management Review, under the caption "All is Not Lost." In it Mr. Leacock protests that Herr Hitler's hay-fever should not cause us sleepless nights, that the ultimatum from the Lats to the Slats should not cause us any undue worry. In short, we should not worry about people, who, according to Mr. Leacock, spent their time a few years ago in making clocks and toys for the rest of the world to play with, and who now, because of our worry, occupy the centre of the world's stage, and seem to like it. Mr. Leacock says "All is not lost, the sun still shines, and, if we must worry, let us worry about our golf and our fishing."

Mr. Mapp, in an address to the Kiwanis club of Halifax, dealt with home affairs. The article is entitled "Some Problems as Between Business and Government," and in it he discusses duplicate and overlapping taxes, succession duties, the railway problem and many other items of taxation, in a very clear and sound manner. He urges business men generally to scan the government public accounts, and asks the very pertinent question "What is government doing to solve some of the major problems of business in return for all that business contributes to government?" The writer would infer that Mr. Mapp considers the average business man pays far too little attention to government matters which directly concern him and that the sooner he begins to take a real interest in such matters, the sooner will inequities be swept away.

One cannot read Mr. Leacock's article without feeling that, both collectively and individually, we worry about matters which we cannot hope to rectify and that by our continued worry we place a false sense of importance upon people who simply thrive on that kind of thing. Worrying about our golf and our fishing will not cure the world's ills, but it certainly will not make them more acute, and if we have to worry,

then let us do a little more worrying about the things that more directly concern us as business men.

Mr. Mapp's article is very timely, and points out that we do not pay sufficient attention to those matters which, after all, are our business. If we gave them the consideration they deserve, then governments would be forced to act, for it is seldom that governments move faster than public opinion.

At Headquarters

Plans in the making indicate that the Society is to enjoy one of its best seasons. Already the programs for most of the Chapters are well under way, and some excellent speakers have been invited to address the members with topics, in many instances, reaching farther afield than the routine of ordinary cost accounting.

Recently, the writer had an opportunity to sit in with the directors of the Niagara Peninsula and the Kitchener Chapters, both newly-organized last season, and the enthusiasm, as well as the grasp of the situation, displayed by these new Chapters was amazing, to say the least. Such a spirit augurs well for the future of our Society, and there is no doubt that, with the advantage of an early start this season, such enthusiasm should ensure for these new Chapters programs that will be interesting and instructive.

Many new members will be introduced into these Chapters shortly, so that other Chapters had better look to their laurels in this campaign for increased membership. Within a week, we look forward to a meeting with the newly-formed London Chapter's directors in order to study their plans for a program in that centre, and here, too, prospects are promising for an excellent season.

Hamilton Chapter will start the ball rolling with a joint meeting of the Hamilton, Toronto, Kitchener and Niagara Peninsula Chapters. An outstanding speaker, in the person of our president, Kris A. Mapp, F.C.A., will address this meeting, which promises to be not only the largest but the best ever held under such auspices. It is hoped that a record number will attend.

It is to be hoped that the other Chapters will reciprocate by inviting the Hamilton Chapter to visit them later in the season, and that at these group gatherings we may discuss our mutual problems as well as becoming better acquainted with one another. Generally, the situation looks to be exceptionally bright for a record season.

A New Departure

The end of the present month should see in print a booklet containing the By-laws of the Society, its aims and objects, a short history our Society; names of all officers and directors of the Society, and of each Chapter; Chapter programs; when and where Chapter meetings are held, and a complete catalogue of all reference literature, including all studies published by the Society. This latter will enable members to make use of the

literature on hand, and we hope that this booklet, in addition to being of tremendous value to our present members, will interest many others who are, at present, only prospects. Such a booklet should fill a long-felt want among our members and others, and give a decided impetus to our work.

At the end of the present month, your Secretary-Manager will leave for a trip through the west to Vancouver, stopping en route at Fort William-Port Arthur, Winnipeg, Regina, Calgary and Edmonton. In Vancouver, as well as in Winnipeg and Fort William-Port Arthur, new Chapters are assured, and it may be found possible to organize Chapters in the other three centres mentioned. If that can be accomplished, and the organization of a Chapter in Windsor, Ontario, consummated, we shall have made tremendous strides during the past year, but a Society as well as an individual, cannot stand still, and our membership and our work must be enlarged. All this cannot be accomplished, however, without the help and support of our members, which the directors of the Society earnestly solicit.

It is hoped that in "Cost and Management" the writer will, on his return from the west, be able to tell you of wonderful advances made by the Society as a result of the trip. In the meantime, may we ask once again that applications of, or the names of any, prospective members be mailed to the Secretary-Manager. Our aim for an increase in membership during the present fiscal year is high, and all the help possible in this regard is needed.

Let headquarters hear from you, with your suggestions or criticisms. They are always welcome, and convey to us an interest in your Society. It is "Your Society" and to you, its members, it looks for its success.

Relation of Costs to Determination of Selling Prices

By ERIC A. CAMMAN

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No profound study is required to appreciate that there is a relationship between costs and prices and that, in the concept that results are what one expects and consequences are what one gets, the result is profit or the consequence is loss. The practical consideration to the business man is how to turn consequences into results.

One of the objectives held in view during the earlier days of the development of the art of cost accounting was the establishment of a basis for the setting of selling prices. The objective was given considerable prominence and usually was stated without qualification. From the experience gained through the years we have come to recognize that the scope of the objectives is not to be so simply stated and that the problems in-

volved in setting selling prices, in meeting selling prices, and in lowering selling prices, staying in business the while and making a profit perhaps, are varied and complex. Correspondingly, the art of cost accounting has been developed as one means of coping with these problems, of which the relation of costs to the determination of selling prices might almost be called the central theme.

Definition of Price.

Adam Smith defines two kinds of prices, a natural price and a market price. The natural price of a commodity represents the accumulated normal costs of bringing it to market plus a normal profit. He says:

"When the price of any commodity is neither more nor less than what is sufficient to pay the rent of the land, the wages of the labor, and the profits of the stock employed in raising, preparing, and bringing it to market, according to their natural rates, the commodity is then sold for what may be called its natural price."

This serene and equitable order of things does not regularly obtain, however, a fact which is brought closely home to all of us in these pump-priming days. Adam Smith continues with the following comment:

"The actual price at which any commodity is commonly sold is called its market price. It may either be above, or below, or exactly the same with its natural price."

Evidently there are other factors entering into the determination of market prices than the recovery of accumulated costs alone. Were this not so, market prices would always be natural prices, there would be no profit-and-loss account, because there would be no losses, and cost accountants would reign supreme in our economy.

The Standard Dictionary says as to price:

"The cost of a thing is all that has been expended upon it, whether in discovery, production, refinement, decoration, transportation, or otherwise, to bring it to its present condition in the hands of its present possessor; the price of a thing is what the seller asks for it. In regular business, as a rule the seller's price on his wares must be more than their cost to him; when goods are sold, the price the buyer has paid becomes their cost to himself. In exceptional cases, when goods are sold at cost, the seller's price is made the same as the cost of the goods to him, the cost to the seller and the cost to the buyer becoming then identical."

It is interesting to observe in this quotation that no recognition is given to the possibility that price may be less than the seller's cost, unless it be in the definition, which also appears, that price is "cost (to the buyer)." The delicate subject of price being less than cost is not referred to other than by implication in this simple and all-inclusive definition. We shall have to consider it, nevertheless, in the course of this discussion, because while general acceptance may be assumed of the principle that price should cover cost, we have to face the fact that there are times when it can not.

Let me define price, for our present purpose, as the net amount payable to the seller by the buyer. One might call this an accountant's definition. By it is meant list price less discounts. Net prices are less common than

price structures embodying various forms and scales of discounts which may be classified as:

Trade or functional discounts,

Quantity discounts,

Volume discounts,

Cash discounts.

The trade or functional discounts apply to various distribution channels according to type of customer, such as jobbers' discounts, dealers' discounts, etc. There may be a number of different functional discount brackets.

Quantity discounts represent concessions in consideration for the purchase of a specified quantity in a single transaction. This type of discount would run at a different rate, for example, for a single article, one dozen, six dozen, or one gross to an order.

Volume discounts are concessions made upon the basis of the total volume of purchases during a period of time, usually one year. They relate to the total dollar amount bought by the customer, irrespective of the articles bought or, possibly, varying in rates according to broad kinds of articles bought.

All of these forms of discounts are distinctily a part of price and must be taken into account in regarding the level of price. Cash discounts sometimes should be treated likewise when they are substantial in percentage and are in reality more in the nature of a trade discount than a strictly financial one. On the other hand, when cash discount is the more common one per cent. or two per cent., it need not be regarded as a part of price, particularly when it is equally available to all customers.

When there are special buying affiliations, customer groups, or some similar plan for linking a number of customers in the same general distribution class into a group entitled to certain special discounts, the arrangement is made for the purpose of obtaining volume and is merely another form of volume discount. Any rebates or concessions, therefore, are a part of price.

On the other hand, bona fide, legal advertising allowances should not be regarded as a part of price like the mentioned discounts. Such allowances are expenditures for advertising, the advertising being placed, as a matter of mutual advantage, through the customer, but nevertheless for the primary purpose of advertising and not in any way in consideration for quantity or volume or as to trade group.

Brokerage and commissions paid intrinsically are not an element of price but plainly are a cost. This is one of the important questions being fought out under the Robinson-Patman act in the Biddle Co.* and the A. & P. Tea Company** cases, the position of the Federal Trade Commission being that such payments or allowances made to buyers are elements of price and, further, that whether or not they are a part of price, sec. 2 (c) overrides sec. 2 (a). The briefs in the A. & P. Tea Company case contain argument on this issue at length and the eventual outcome of it will be interesting.

* F. T. C. complaint, docket No. 3032.
** F. T. C. complaint, docket No. 3031.

RELATION OF COSTS TO DETERMINATION OF SELLING PRICES

In order to deal intelligibly with the subject of the relation of costs to the determination of selling prices, it is necessary in the first place to distinguish between industry groups, which may be broadly classified into:

Basic resource industries,
Services and trades,
Manufacturing,
Wholesaling,
Retailing.

The problems of price stabilization or price control and of the relation between costs and prices have different aspects in each of these groups. It would be bewildering to attempt to speak of them all in general terms. Let us therefore confine our consideration to the field of manufacturing and deal with the manufacturer's costs and his prices. Within this province we shall have to consider the retailer, but solely from the standpoint of him as a customer of the manufacturer. In order to do so, it is again necessary to classify retailing into various types of outlets, such as:

Small retailers,
Large retailers,
Specialty shops,
Chains,
Mail order, etc.

These represent different functional avenues of retail distribution in which, because of differences in the methods or quantities of manufacture or sale, different price levels prevails.

Section 2 (a) of the Robinson-Patman amendment to the Clayton act gives adequate cost accounting a legal significance which may be very important, if not decisive, in a given set of circumstances. One of the benefits which it is safe to reason will unquestionably ensue from this law will arise from the stimulation it has given to the development of proper cost accounting, especially of distribution cost accounting. This is not because the act itself requires adequate cost accounting, for the presentation of a cost defence on the part of a respondent in any case of alleged illegal discrimination is entirely optional with the respondent. The law merely says that discriminations in price which injure, prevent, or destroy competition or tend toward monopoly are illegal, unless it can be shown (by the respondent) that there are differences in cost arising from differences in method or quantity of manufacture or sale and, in the event it can be shown there are such differences, the differences in price are restricted to the differences in cost.

Price Differentials Under Patman Act.

It has been mentioned that there are various functional groups in retail distribution in which different price levels prevail. In order to illustrate the operation of the Robinson-Patman act and how the relation between costs and prices may appear, an example containing hypothetical figures is given in the table which follows. Let us assume the case of a manufacturer selling a fairly extensive line of standard merchandise to customers in four different retail functional groups, namely, small retailers, specialty shops, large retailers, and chains. Different discount brackets apply in each one

of these groups. Also, different costs of doing business are incurred in each group. The differences in cost arise from differences in methods and quantities of manufacture and sale, but primarily of sale.

Relationship of Costs and Selling Prices.

A—Small retailers. B—Specialty shops. C—Large retailers. D—Chains.

I—Price Structure

	Customer Class A	B	C	D	Tot.
Sales	90	86	83	77	761
Cost	87	78	77	73	718
Profit	3	8	6	4	
Volume	1	½	2	6	
Total Profit	3	4	12	24	43
Profit Rate per cent.	3.3	9.3	7.2	5.2	5.7

II—Differentials

	Customer Class A	B	C	D	Based on
Price	0	—4	— 7	—13	A
Cost	0	—9	—10	—14	A
Price		0	—*3	—*9	B
Cost		0	— 1	— 5	B
Price			0	—*6	C
Cost			0	— 4	C

*Price differential more than cost differential.

The figures shown in part I of the example indicate the respective price levels which are effective in each customer group with respect to a common list price or standard selling price level. These price levels for groups A, B, C and D are 90, 86, 83 and 77. This means that group A receives a discount of 10 per cent., group B 14 per cent., group C 17 per cent., and group D 23 per cent. The cost of doing business in each group varies because of differences in methods of selling, in advertising, in shipping, in size of order, in character of merchandise sold, and in quantity sold per order. Accordingly, the rate of profit differs in each customer class. Furthermore, the volume of business done in each customer class differs in relation to the total, and this naturally has an effect upon the total profit.

For this reason, it is important to set the differentials in price with due respect to the differentials in cost in such proportion that the total profit realized shall be appropriate. Obviously any change in the relationship between cost and selling price in one of the groups will have its effect upon the profit realized in that group. It may also have effect upon the volume of business done, which in turn will be reflected in the total profit of the entire business. Therefore, it is incumbent, in the interests of effective management, to know that the price structure is properly balanced, in order that the price level be not so low on the one hand as to impair profits or so high on the other hand as to reduce volume.

With the advent of the Patman act it is further necessary to observe the relationship between prices and costs, not only within each customer group, but as between customer groups (assuming that they are in competition).

In part II, figures are shown expressing the differentials between the respective retail outlets. It is apparent that the various price concessions downward in the scale from the highest price customers, the small retailers (group A) are within the cost differentials, so that herein there is no conflict with section 2 (a). However, when we compare the price and cost differentials applicable to groups C and D (large retailers and chains) with the prices and costs applicable to group B, specialty shops, we find that the price differentials exceed the respective cost differentials, wherein they are contrary to section 2 (a). A similar situation exists when we examine the

price differential allowed group D (chains) over group C (large retailers), which is greater than the cost differential.

It is clear from this hypothetical example that the price discrimination between certain groups of competing customers could not be sustained by the differences in costs of doing business with them, which would indicate a readjustment in the price structure to be required. It will be interesting to observe how such readjustments will be made as the result of the Patman act, because the effect would be that price levels would become set between functional groups within the limits of the respective costs of doing business and tethered to either end of the price scale, most probably the lower end. This would mean that the lowest price level, which is the price at which the volume buyer will buy, will fairly well delimit the price levels for the other functional groups upward in the price scale. The price differentials upward may not exceed the cost differentials, because that would result conversely in the price differentials downward exceeding the cost differentials.

The new requirements for data such as are illustrated in this example necessitate the new developments in distribution cost accounting which are now being made. It will not be sufficient to rely upon a general knowledge of the market or upon estimates as to the various inter-relationships. Suitable procedure must be set up to develop, regularly through the accounts, summarized figures of the kind shown, both as a guide in management and as a defence in case any part of the price structure is brought into question. Herein lies both the opportunity and the responsibility of the cost accountant, because this procedure should be set up along sound lines and established on a supportable basis. Test calculations or speculative constructions will not be acceptable.

Robert E. Freer, member of the Federal Trade Commission, said recently in an address on accounting aspects of the Robinson-Patman act:

"It is my personal hope and belief that a by-product of the Robinson-Patman act will be the development of a more adequate system of accounting for costs of distribution, capable of helping business men to be not only law-abiding, but also more efficient. The devices which have been used thus far to give the immediate knowledge of costs made desirable by the act have often proved to be inadequate."*

Perhaps it is not inappropriate for me to say in this connection that it is my personal hope and belief that the cost accountants of America will meet the challenge and are equal to the opportunity.

Definition of Cost.

Anyone familiar with the numerous and perplexing attempts which were made to define cost during the days of the national industrial recovery act will naturally shy away from like endeavor. Yet it seems necessary for us to have some kind of definition in order to pursue our subject. It is interesting, by the way, that Adam Smith included profit as an element of cost:

"The commodity is then sold precisely for what it is worth, or for what it really costs the person who brings it to market; for though in common language what is called the prime cost of any commodity does not comprehend the profit of the person who is to sell it again, yet if he sells it at a price which does not allow him the ordinary rate of profit in

his neighbourhood, he is evidently a loser by the trade; since by employing his stock in some other way he might have made that profit. His profit, besides, is his revenue, the proper fund of his subsistence. As, while he is preparing and bringing the goods to market, he advances to his workmen their wages, or their subsistence; so he advances to himself, in the same manner, his own subsistence, which is generally suitable to the profit which he may reasonably expect from the sale of his goods. Unless they yield him this profit, therefore, they do not repay him what they may very properly be said to have really cost him."

One can fancy this quotation causing a pretty discussion upon the subject of what is cost, unless we read the word profit, as it is here used, in the sense of salary. However, this is a digression. The coming and going of the national industrial recovery act is sufficiently recent for us to recall the clauses which were put into codes undertaking to define costs. There is no point in dwelling upon these, but it may be pertinent, in the interest of clearing up some of the confusion which resulted, to remark that in most instances these cost-protection clauses were not so much attempts to define cost as they were attempts to fix a price floor. They were mainly expedients for price control. As definitions of cost they were ridiculous in most cases.

From the standpoint strictly of definition of costs, the formula published by the National Association of Cost Accountants in 1934 is probably as good as any for the purpose. This formula need not here be quoted in full, but it is interesting, as having a bearing upon the relation between costs and prices, particularly upon the relation in which costs exceed prices, to quote the following paragraph therefrom:

"The making of this recommendation does not imply any opinion as to the practicability or the impracticability of this clause to accomplish: (a) minimum selling prices, or (b) cost protection."

This reference is made in order to bring out the distinction between defining costs under a general formula on the one hand, and on the other hand ascertaining and using them as means for limitation upon prices. The committee which framed the formula said, in effect: As cost accountants we can and do define how costs should be computed, but we express no opinion as to the practicability of using costs as price-control devices.

The Federal Trade Commission, recognizing the difficulties of the situation, has adopted a sensible wording for use in drafting approved trade-practice rules for industrial groups. This wording, as it relates to the rule against selling below cost with the intent of injuring a competitor, says as to cost: "All elements recognized by good accounting practice as proper elements of such cost shall be included in determining cost under this rule."

It will suffice, for our present purposes, if we regard cost to mean the cost of materials and direct labor plus an equitable share of all other manufacturing, selling, distribution, and administrative costs.

Costs as the Basis of Prices.

If the possession of reliable cost information were all that were needed to determine price, there would be little to discuss except how much profit should be made. Unfortunately, however, cost and profit do not fix price,

and the more one explores the subject the clearer becomes the fact that there is no standard, universal, and permanent relationship between costs and prics. The only general principle that can be set up is that in the end there must be some margin in price over cost on the whole, if capital is to remain unimpaired.

Whose costs are to be used, if cost is to be the foundation of price—those of the individual manufacturer or those of his competitors? The obvious answer is that, free of other influences, the cost which will be the ultimate criterion of price is likely to be some competitro's cost, except in the case of the lowest-cost producer. This circumstance brings in many complications. For instance, a competitor may have an extraordinarily low selling and administration cost, owing solely to the fact that a very substantial proportion of total output is sold to a single large-volume customer. Another competitor may have a variety of interests or a greater diversity of lines under single management. A third may have different equipment making production at a lower cost possible. A fourth may have a plant bought up under reorganization at a fraction of the original investment. A fifth may be situated in an advantageous labor market, having a favorable cost-of-living rate. And so on. All variations of this kind naturally affect cost, which makes it impracticable to lay down the general rule that individual cost shall determine competitive price. The truth is that price ultimately shall determine competitive cost.

One sense in which it might be said that cost determines price is that the customer's replacement cost undoubtedly tends to fix the seller's price. By replacement cost here is meant the cost to the buyer to manufacture. When the price available to the buyer reaches the point at which it would be profitable to him to manufacture, a natural limit is reached, other things being equal. This is not a theoretical problem, but a real one which has been accentuated under recent legislation.

Cost is only one of a great many complex factors which together determine price. No one of them can be made to do so. It is their combination which brings about the result.

A price is not a simple and single factor, like so many dollars for a certain thing. It is a compound and highly complex symptom. For example, take a product like a radio set. The price of a radio set is not simply a matter of figuring out what it costs, adding a profit, and finding out what it should sell for. The price of a particular radio set is affected by the prices of other radio sets with which it must be sold in competition. If the price is out of line, the radio set will not sell. People will buy other sets. Therefore, it is more nearly the case that the cost of the particular radio set is delimited by the price at which it can be sold. Then there are many other features which enter into or affect price, which cannot be expressed in money. Features such as the reputation of the manufacturer and whether or not a guarantee accompanies the sale, the quality of the instrument and its performance, the readiness with which it can be serviced and repaired locally, even the method by which it is sold enters into its price. Again, and this is not the least important, the price at which this particular radio set will sell depends upon whether the

ultimate buyer can afford it, or whether he needs the money for food and clothing or other necessities.

Also, prices are dependent upon the prices of substitute commodities. The price of cotton goods has an effect on the price of rayon or silk products, to a degree which cannot be reduced to formulas, especially when further complicated by the influence of current style popularity.

Is it not plain that it is idle to talk about controlling this highly sensitive and complex thing we call price? It is merely a symptom of other and underlying causes. To attempt to control the symptom would be analogous to trying to cure a headache by removing the head. Or, to put this more nearly, price is a safety valve. If the safety valve on a boiler goes off, it means there is too much heat. Trying to hold the safety valve may become uncomfortable for the holder when the boiler explodes.

All these conditions and considerations lead to the conclusion that it is not possible to link costs and prices in any stipulated relationship, not even to state that cost shall be wtihin price (excepting, if you please, demonstrably deliberate and predatory price cutting).

To Sell or Not to Sell Below Cost

Development of means to prevent selling below cost has been the subject of so much discussion that it cannot be overlooked in any consideration of the relation between costs and prices. No fair-minded person would quarrel with the principle implied, so long as it represents a standard toward which to aim and not a law under which to operate without latitude. Again barring predatory price cutting, there are so many occurences in the usual course of business for which exceptions must be provided that the exceptions would be preponderant. Beyond the necessary permission to meet competitive prices, it is obvious that at other times a selling price cannot always cover costs.

For instance, the manufacture of second-grade products is unavoidable in many industries. Such products have to be sold at a lower price, which may not cover their cost. Obsolete merchandise may have to be sold at a sacrifice. New products may have to be introduced at a price which is below the actual first cost. Many causes may bring about the condition that goods cannot be sold at prices that will return their cost, and clearly it cannot be contended in such cases that the goods must remain unsold.

The substance of the matter is that an attempt to prohibit universally by law sales by manufacturers below their own cost, except in outstanding cases when the surrounding circumstances indicate injury to competition, etc., would entail tremendous difficulties of interpretation, administration, and enforcement. It is not an easy matter to establish cost for such a purpose. The cost of a specific transaction involving a particular lot of a certain manufactured product cannot be computed with precision, because too many elements of cost remain fixed and do not vary with volume. Even assuming a reasonable presumption as to volume, there would remain debatable questions about the allocation of indirect costs as between different products or different ventures. Absolute identity does not always exist between similar products for the same uses made by different manufact-

urers, yet such products may be competitve, selling in the same markets.

Furthermore, as has been mentioned, uniformity of conditions among manufacturers does not exist with respect to plant investment, processes, distribution methods, scope and size, so that any project to fix prices according to costs would fall under the weight of interminable problems of interpretation. Administration, which of necessity must follow the course of complaint, investigation, argument and decision, would be so slow and cumbersome as to be futile as the means of prevention. The delay would benefit violators at the expense of those who conform, which would ultimately lead to nullification.

Entirely aside from htese difficulties of interpretation, administration, and enforcement, the principle proposing to tie prices to costs is unsound. Price is a readjustment factor in a free economy, the operation of which is wholly incompatible with any scheme for pegging prices.

The problems of price stabilization call for the exercise of more educational and less politing effort, for better methods of cost accounting, for better presentation of reliable data as to the relationships which exist between costs and prices in various markets, and for a better understanding of the probable outcome of bad pricing policies, all of which would promote intelligent competition and would accomplish more than rigid prohibitions would. Frequently price competition is impulsive, not a considered policy based upon knowledge of the true relations between volume, price and cost. When these relations are properly brought out by adequate cost-accounting methods, it is reasonable to expect that business men will follow the least unprofitable course is there is a choice.

Effect of Volume on Costs and Profits.

Basic Data A and B		Expected Results A	Result 1	Result 2 B	Result 2 A	Result 3 B	Result 3 A
100	Volume (a)	(1) 125	100	(2) 112	88	(1) 100	(2) 100
100	Price (b)	(7) 93	93	(1) 89	93	(2) 89	(1) 89
100	Sales (c)	(5) 116	93	(3) 100	82	(3) 89	(3) 89
30	Fixed Cost	(2) 30	30	(4) 30	30	(4) 30	(4) 30
60 (d)	Variable Cost (e)...	(3) 75	60	(5) 67	53	(5) 60	5 60
					53	(5) 60	(5) 60
90	Total Cost	(4) 105	90	(6) 97	83	(6) 90	(6) 90
10	Profit	(6) 11	3	(7) 3	..	..	..
	Loss	..	..	..	1	(7) 1	(7) 1

Note: $a \times b = c$. $a \times d = e$.

Volume as a Factor in Cost.

An example will be helpful to illustrate at once the type of data required to bring out the relationship between costs and selling prices and the difficulties of the problem of setting prices arising from the uncontrollable variable, volume. Typical data are shown in Effect of Volume on Costs and Profits. The figures are all hypothetical. Those given in the first column at the left represent basic data upon a line of products respecting costs and profits which, for simplicity, we shall assume are the same for two competing manufacturers, A and B. These basic data will serve for the purpose of reasoning out price policies and of expressing what may result from these policies.

Let us assume that the management of A, after careful study of the situation, concludes that there is a wider potential market for all manufacturers of these products, a market which could be tapped if prices could

be brought down to a sufficiently attractive level. Careful calculations are made as to the probable outcome of such a policy and as to the extent of price reduction which is feasible and sound, that is to say, that does not lead to sacrifice of profits. The figures shown in the next column of Effect of Volume on Costs and Profits, to the right of the legend, represent the expected results of the policy being considered by the management of A.

It is reasoned (1) that an increase in volume of 25 per cent. is attainable. Under this increase, the fixed cost (2) would not change, but the variable cost (3) would rise correspondingly to the rise in volume. This would bring total cost (4) to the level of 105. In order to obtain the normal desired rate of profit, which is 10 per cent., the level of sales must be (5) 116. (That calculation is made by dividing 105 by 90.) The resulting profit (6) would be 11.

The level of price which would obtain in these proportions can then be computed. It is axiomatic that the level of sales is determined by the level of volume times the level of price. Accordingly, if we divide 116 (5) by 125 (1) the necessary price level (7) 93 is derived.

These figugres show that, with a price reduction of 7 per cent., if an increase in volume of 25 per cent. is induced, a normal rate of profit will be realized.

Expected results do not always materialize just as they were planned. Let us assume in this example that the expected increase in volume was not obtained. The figures in the column headed "Result 1" indicate what then happens—that the entire concession of 7 per cent. made in price obviously would have to come out of profits.

Now let us assume further that the management of B does not pursue a similar method of reasoning out a pricing policy and does not make any such careful calculations as were made by the management of A. Let us say that the decision of the management of B is simply to slash prices severely in the hope of enlisting volume, no matter whence it comes. The consequences assumed to result are shown in the column "Result 2." The decision is to cut prices (1) to the levèl of 89. This step succeeds in an increase in volume (2) to the level of 112 and the outcome, following the same method of calculation as has been explained, is a small profit of (7) 3.

The increase in volume of 12 per cent. obtained by B, however, has been taken away from A (1). The result is that under a steadfastly maintained price policy at 93 level (2), A loses money (7). Here we have the anomalous situation, under these assumptions, that B, chargeable with ill-considered price cutting, makes money, whereas A, whose price policy was most carefully planned, is chargeable with selling below cost!

Carrying out analysis a step further, what actually happens under competitive conditions is somewhat different. This is expressed in the column headed "Result ." B has cut prices, and A is forced to meet them (1). In consequence, both obtain about the same share of business they had formerly (2), neither enjoying any increase in volume and, in further consequence, both companies lose money (7) because of the disproportionate price reduction; a situation which we shall assume, in order to have

a moral to our fable, could have been prevented by more intelligent competition on the part of B.

Conclusion.

The object of this article is to bring out the complexity of the interrelationships between costs and prices, the futility of laying down any general formula for their fixation, and the necessity for the use of cost accounting in aid of good management. The latter merits emphasis. A conclusion that prices cannot be based on costs alone by no means implies that a knowledge of costs is of little use. The examples which have been cited are designed to illustrate that the contrary is rather the case and that data of the kind are increasingly needed.

General regulation of the relation between costs and prices of manufacturing enterprises is impracticable without a degree of regimentation which, at the present stage of our civilization, seems equally impracticable. If drawing one probability from two improbabilities is not too much of a strain upon logic, it points the way toward less restriction and more education.

The distinction between the cost-protection doctrine and the provisions of the Robinson-Patman amendment should be reiterated. This act does not purport to tie prices to costs; it requires that price differentials shall be commensurate with cost differentials, which is an entirely different proposition. We have still to gain much experience as to the operation of these provisions, but it is clear now that cost accounting will be an important influence in the shaping of that experience.

Control of Business Through an Integrated Corporate Budget

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SUMMARY

It should be recognized that introduction of the budget for purposes of business control is not in the nature of an exact science. Economic changes are such that flexibility of action must always constitute the prerogative of sound management. The corporate budget and reports related to it do, however, represent a considered plan of action which, if sufficiently enforced and understood by those who use the program, will make for more intelligent operation of business. Practical operation of the budget in American enterprise as demonstrated by diversified experience involves use of the sales forecast, the production budget, the inventory budget, the manufacturing expense budget, the selling and

administrative expense budget, the master budget, the plant and equipment budget, the cash forecast, the projected balance sheet and, preferably also, the disposition of funds statement. These are the essentials. With such tools available, management is favorably equipped in terms of factual data to proceed toward desired objectives and assign responsibility for failure to meet them.

The budgetary program which translates and projects all of management's plans and leads up to the estimated profit and loss statement and balance sheet is highly desirable in the negotiation of bank loans. Bankers generally recognize that budgetary methods reasonably estimate the influence of management objectives upon the statement of future condition and give careful consideration to them.

The failure of the budget in business practice may be traced to two principal causes—first, poor technique in development of essentials and, second, inefecctive presentation to executive heads who are expected to be guided by them. Budgets must be practical. If fitted to the particular needs of an individual business and constructed for purposes of control, they should provide an orderly plan for the most profitable utilization of capital and labor in the industry to which applied. As such, budgetary methods represent a complete service, supporting objective and accomplishment, in the interests of management, banking and the investors whose capital has made the enterprise possible.

Internal control of business through use of an integrated corporate budget involves consideration of the expectations of management, the expectations of management's banker, the responsibilities falling up the budget officer in meeting these expectations and the development of a program which, in the jurisdiction of the controller, will measure up to the requirements of all concerned.

Use of a budget for the purposes of corporate control no longer is marked by the experimental or the mysterious. Volumes of case material are available which demonstrate the practical application of budgetary plans suited to the needs of varying classifications of business activity. Today sound management demands the employment of measures which will furnish a guide to business profits and disclose the leading reasons for failure to achieve them. The natural interest of the banker in such measures springs from the necessity of developing a concrete picture of the borrower's credit requirements and need of reasonable assurance that

the loans once granted will be liquidated. A budgetary program which translates and projects all of management's plans in terms of operating statements and balance sheets probably will not insure credit, but it is likely to place the business in condition to deserve credit. These requirements of management and banking are such as to dictate the responsibilities of the controller. Having in charge the mechanism by which management proceeds and that upon which the banker, when adequately informed, advances credit, the controller probably is in the best position to develop the road map for those whose acquiescence and support represent the mainspring of the budget.

Budgetary plans, shorn of superfluous statistics, not only furnish the necessary guideposts to executive action but are more certain of success than those creations which, aimed at theoretically detailed control of operations, usually fall in the discard of their own weight. The fundamentals of control outlined herein presuppose the co-operation of management, a suitable accounting structure and sufficient interpretiv intelligence for the translation and analysis of factual data as a service to management. The discussion will deal with nothing new in budgetary practice. It will disregard all forms and specific methods of organization as being of less consequence than the objective. Its purpose is only that of summarizing the fundamentals underlying proven and successful performance of the budget and these related reports which, if effectively maintained, make for orderly management and financial control of enterprise.

The Essentials of the Budget.

The sales forecast for the period under consideration represents the keystone of the budget. Major attention should be given to the accuracy of these estimates and the responsibility of the sales management supplying them. The forecast of expected sales delivered by the selling division should be subject to such correctives as apply by reason of prevailing and expected general economic conditions, a responsibility of general management.

The production budget, representing a translation of the sales forecast expressed in terms of productive labor and material requirements is next in importance. Extension of the unit sales forecast according to known costs of production or a composite of labor and material investment measured by the experience of previous years, with suitable corrections for expected base cost variations, may be employed for this purpose.

The inventory budget, projecting inventory investment in proper relation to adequate turnover and orderly balance between raw, semi-finished and finished products, represents an important factor in successful budgetary practice. Correlation between production and sales is the foundation of inventory investment control and one means by which the effectiveness of purchasing and factory management may be gauged.

The manufacturing expense budget, based on allowables in each account afforded by the plan of accounting in use and related to the amount of labor required for production of expected sales, is an essential factor. Further division should be made as between constant, variable and semivariable expenses by departments of manufacture since all items do not

fluctuate in relation to the productive labor contribution. Both general and departmental management should be held responsible for manufacturing expense investment and the maintenance of standard overhead ratios used in the price structure. Variation from such standards should show cause, divided as between that portion which results from failure to meet budgeted expense and that which arises from productivity.

The selling and administrative expense budget, representing those expenses for which sales and general management are responsible, is prepared according to known requirements in the selling price structure. As in the case of manufacturing expenses, these items should be divided between constant, variable and semi-variable classifications but related to sales volume as a base rather than productive labor. Field and headquarters' management should be held accountable for variations from the standards of expense used in price building.

The master budget—representing the sum total of the sales forecast, the production budget, the inventory budget, the manufacturing, selling and administrative expense budgets—will develop the anticipated profit or loss resulting from manufacturing and trading operations, against which actual performance may be measured. Suitable deductions must then be made for income taxation, fixed charges on capital and funded obligations, and extraordinary items of expenditure to disclose the amount available for common stocks and additions to surplus for the period.

The plant and equipment budget, covering proposed expenditure for fixed assets to be acquired during the budget period, must be prepared by the officer in charge of physical properties. The scheduled expenditure should describe the projects contemplated and the approximate date for which payment therefore will be due. Expenditures for plants assets are usually, and preferably, supported by general management authorization.

The cash forecast grows in importance as taxes absorb larger portions of earnings not always available in the form of csah. Cash budgeting is essential for the determination of financial policies involving plant expansion, payment of dividends, liquidation of outstanding debt and adequate financing of seasonal peaks in business activity. For short-term forecasts, collection departments are required to estimate available revenue by analysis of accounts receivable, sales to be billed and velocity of turnover as demonstrated by previous experience. Disbursements for the period are determined from the working capital needs established in the production, inventory and expense budgets—together with commitments for dividends, taxes and property expenditures. The balance of receipts and expenditures will disclose treasury requirements for the period covered by the budget, although sufficient flexibility must be allowed for conditions which arise and over which internal management has no control. The reliability of long-term cash forecasts will of necessity depend upon actual performance against budget estimates and the precision with which the budgetary program is administered by management.

The projected balance sheet sets forth the results of the budget program upon the resources and liabilities of the business. It is practicable to translate the monthly profit and loss forecast shown by the master budget

in terms of the balance sheet and thus provide the financial department with a cross-section of working capital requirements for the period under consideration. It is an important instrument in facilitating negotiations with the banker.

The disposition of funds' statement is an indispensible aid in showing the movement of funds, provided by profits, banking or additional capital. Its purpose is to describe the sources of revenue and capital made available during the period and the disposition of these funds in plant expxenditure, payment of dividends, adjustment of working capital position and other significant changes in operating and financial status. It is an effective co-ordinating link between the operating statement and the balance sheet, and interpretive of the moving values shown therein.

In the light of modern practice the purpose of the corporate budget is primarily to analyze a situation, develop the program business is to follow and then to assist management in controlling operations so that desired objectives may be obtained or, at least, approximated. If the only measure of the budget is one of prophecy, and management fails to use it as a tool for the control of internal operations, adoption of the program is of questionable wisdom. Failure of the budget in business practice may be traced to two principal causes—first, poor technique in development of the essentials and—second, ineffective presentation to executive heads of the business and those whose co-operation is an adjunct necessary to success. Regardless of anything else, the budget must be practical and made to fit the particular needs of the individual business served It cannot be introduced by a novice or developed and applied with indifference. Dealing so

those who are to use it and to the organization which is governed by it. broadly with human nature, it must be carefully and completely sold to Budgets carelessly prepared and not related to actual operations command little, if any respect and executives rightfully pay limited attention to them. Such budgets are unreliable as a guide and of no use as a control. A budgetary program, however, constructed for the purpose of control, supported and enforced by management, will provide a systematic and intelligent plan for the most profitable utilization of capital and labor in the business to which it is applied. Successful administration of the budget demands calling upon those in authority for specific information regarding their plans and their requirements from interrelated departments. This authority must be followed by adequate organization responsibility.

Having a basic plan of action, it is feasible to deal with changes and variations as they occur and assign responsibility for them, thus establishing the psychological advantages of budgetary effort. A natural tendency in business practice is one of serious endeavor to show progress. This test is an integral part of any plan of activity, and periodical review of performance with division heads upon the soundness of the budget when submitted and upon the accuracy with which forecasts are being met make for intelligent executive control and conscientious effort on the part of plan for securing budget accomplishment may well represent a valuable corollary to the program.

The experience of American management in administrative control through use of the integrated corporate budget demonstrates that it aids in clear thinking and establishment of financial objectives for each division of the business. It co-ordinates and unifies these plans and affords opportunity of visualizing their effect. It facilitates adjustment to necessary changes in economic conditions and insures periodical check of progress. It requires basic information, thus revealing facts which otherwise might not come to the attention of management. It increases the effectiveness of personal effort by drawing upon positive psychological principles as an aid to management and assures confidence of the banker and the investors whose capital has made the enterprise possible. These are definite advantages. They reflect intelligent operation of a business and are capable of translation as a source of profit.

Objectives of Standard Costs and Their Use in Measuring Performance

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SUMMARY

The appreciation by management of the superiority of "standard costs" over "historical costs" as a basis for cost control, inventory valuation,

cost estimating, preparation of financial statements and profit determination, has resulted in the widespread adoption of this newest form of industrial accounting by both large and small businesses, particularly in the last decade.

The use of standards not only permits a closer degree of control of costs, but in addition thereto provides a means for cost reduction. Likewise, a standard cost plan will, in most cases, require less accounting personnel and effort than is required where a job order or process system is in effect.

While in the earlier years of standard costs it was quite generally felt that their application was confined solely to factory cost, it has been clearly demonstrated that they can be applied equally as well to selling and administrative functions.

Standard costs are of particular value to management in connection with the preparation of commodity profit and loss statements, in that here they serve to call attention to the need for cost reduction and bring out very clearly the effect of idle or unused plant facilities on profits.

Naturally standard costs are more easily installed and permit closer control in some businesses than in others. However, the fact that they are installed and in active use in various types and sizes of businesses today, would seem to indicate that they can be used to advantage by management quite generally throughout industry.

The inability of "historical costs," that is, job order and process costs, to meet the accounting needs of modern industrial management, has resulted in the widespread adoption, particularly in the past decade, of standard costs in both large and small industries.

"Standard costs" as the term is used here in its broad meaning, applies to cost as scientifically determined in advance, in contrast to "historical costs" which are accumulated after the event.

The remarkable interest in standard costs so plainly evident in recent years, is perhaps best explained by the fact that a standard cost system provides a means not only to control costs, but actually to lower costs. If properly installed and operated, however, standard cost systems do more than to reduce cost. They provide a means for assisting in the obtaining of desired profits, and serve as a basis for the proper establishment of selling prices. They reveal not only the existence of but the causes for variations from the cost which should be attained. Through their use, concise summary reports can be prepared for each executive showing the results of the operation or department for which he is responsible and directing attention where necessary to the reasons for failure to attain standards.

Briefly, it would seem that we might well sum up the objectives of standard costs as follows:

(a) To provide management with an accurate and clear portrayal, by operations or responsibilities, of what costs should have been, together with

(b) An analysis of the variations from expected cost so set forth as to

(c) Point out the reasons for failure to attain the standards, and thus permit

(d) Prompt application of corrective measures where required in order that

(e) Profits planned for may be actually attained.

There still exists some confusion between the terms "standard costs" and "budgets." It is usually found that where standard costs are used budgets and budgetary methods will also be adopted, because both procedures have in common the object of better management through planning toward definite ends, regulating performance according to definite expectations, and recognizing effectiveness in accomplishment. Budgets are the logical accompaniment of standard costs.

In the foregoing, particular emphasis has been given to the use of standards as a means promptly and accurately to inform management as to the efficiency of operations. However, this type of cost plan has many other important advantages in that it.

(a) Permits accurate financial statements to be prepared at frequent intervals with a minimum of accounting effort, and without the necessity of taking physical inventory,

(b) Simplifies and reduces cost accounting effort and expense,

(c) Facilitates the preparation of cost estimates required for furnishing quotations to the trade,

(d) Furnishes more accurate information for the preparation of budgets,

(e) Provides cost data for accounting and administrative purposes more promptly and of more practical usage than is possible by the use of "historical costs,"

(f) Readily permits comparisons between financial statements prepared at various intervals throughout the accounting period, due to the fact that the basis of valuation (standard costs) is constant for the entire accounting period (generally six months or one year),

(g) Facilitates the preparation of accurate commodity profit and loss statements at frequent intervals, thus enabling management to determine the profitability of the various lines of commodities manufactured and sold, and providing basic information for the formulation of manufacturing and selling policies as well as a cost reduction program,

(h) Reveals clearly the effect of idle plant charges on profits.

Having outlined the objectives, uses an dadvantages of standard costs, let us consider the technique and procedure for the setting of standards, their application to the operations of the business and the analysis of the variances resulting therefrom.

In the development of material standards, two prime factors are involved, namely:

1. Material usage standards.
2. Material price standards.

Material usage standards, or the quantity of raw materials normally required under efficient operation to process a unit of product, in the larger business, can generally be developed from a copy of the standard material specifications on file in the production or engineering office. In

some instances, sufficient importance is attached to the writing of material specifications to warrant the existence of a special department, whose specific function is the gathernig and correlation of production and engineering data from which the standard material specifications will be written.

In the case of the smaller business, where no central file of standard material specifications exists, it may be necessary for a representative of the cost department to contact the superintendent or the various foremen, in order to secure the basic data required to write up the standard material specifications.

From the standard material specifications a list of the various raw materials used in the products can be drafted and given to the purchasing department for the purpose of securing a forecast of the average unit price to be paid during the period for which the standards are to be effective. In the event that the price secured from the purchasing department is f.o.b. the supplier's platform, it is necessary to enlist the aid of the traffic department to secure the freight rate from the supplier's platform to the factory.

Inasmuch as some types of raw materials are subject to certain forms of unavoidable loss prior to actual usage, such as seepage, shrinkage, evaporation, etc., it is necessary to step up the standard purchase rate by the inclusion of a standard shrinkage factor, in order that the credits to inventory throughout the accounting period may balance the original debit thereto.

Since neither men nor machines are 100 per cent. perfect, it is necessary that we also include in our standard material cost component a standard scrap allowance. In larger plants it is often the function of the engineering department or plant laboratory to determine the standard amount of scrap to be allowed per unit of product by scientific research or study. However, in the smaller business, it may be necessary to secure the best judgment of the superintendent or foremen to serve as the basis for the standard scrap allowance.

The term "manufactured scrap" is not to be confused with "waste" or offal." Manufactured scrap is used in connection with a defective unit of product, at some stage of process, while offal or waste is used to designate the excess of material required in order to process a unit of product.

In the development of labor standards, we again have two prime factors involved, namely:

1. Standard time units.
2. Standard hourly rates.

Standard time units, or the time required under normally efficient operation to process a unit of product, in the larger plants, are generally taken from the labor specifications prepared by the industrial engineering or rate setting department, from the results of time and motion studies. In the smaller business, various methods may be employed to secure the basic data necessary to develop standard time units. It may be necessary for someone from the accounting department to spend some time in the plant making time studies or labor tests of various operations to establish

standard time units. Another method, sometimes employed, is to secure the average actual time from past records and then arbitrarily decrease such figure by a certain per cent. to account for the possible inclusion of operating inefficiency in the actual labor figures and likewise provide some incentive for increased efficiency.

Standard hourly rates represent the hourly labor rates forecast to be paid during the period for which the standards are to be effective, for a specific class of work in an operation.

To develop this standard labor cost per unit of product, we have merely to apply the standard hourly rate to the standard time unit. Where piece rates are in effect they automatically become the labor standards.

The various classes or sources of expense which go to make up the total of manufacturing expense can be grouped under two major classifications, namely:

(a) Variable expense—Those items of expense which fluctuate in direct proportion to the volume of production or capacity operated.

(b) Fixed expense—Those items of expense which remain constant, regardless of the volume of production or capacity operated.

Accordingly, a transcript of the manufacturing expense budget at 100 per cent. practical capacity with all expense classified as to fixed and variable expense, must be secured as one of the preliminary steps in the development of standard burden rates.

As the same time it is necessary to secure from the production or engineering department a schedule of the direct labor hours or units of production at 100 per cent. practical capacity for each operation.

Before the detailed expense budget and the schedule of direct labor hours or production units can be used in the development of standard burden rates, it is necessary that we determine normal capacity or the capacity to be used for the standard burden rates. The establishing of normal capacity is purely an arbitrary matter and many indeed are the interpretations and conceptions thereof in existence to-day. In the opinion of the writer, some of the more practical bases upon which normal capacity is predicated are:

1. A per cent. of 100 per cent. practical capacity.
2. Normal sales volume.

The basis to be adopted for the setting of normal capacity depends largely upon the conditions incident to the particular business in question; in fact there may be reason to use more than one methed within the same business due to diversification of conditions with respect to certain lines of product.

With the foregoing data available, the development of standard manufacturing burden rates resolves itself into the mechanics of:

1. The adjustment of the variable component of the manufacturing expense budget from 100 per cent. practical capacity to normal capacity and the subsequent development of the total manufacturing expense budget at normal capacity.

2. The adjustment of the schedule of the direct labor hours or production units at 100 per cent. practical capacity (for each operation or department) to normal capacity.

3. The adoption of definite bases (i.e., direct labor hours, direct labor dollars, or production units), for the allocation of standard burden to production and the subsequent relation of expense to the base selected.

Standard manufacturing burden rates are generally expressed and applied to production as one of the following:

(a) A per cent. of the standard labor dollar.

(b) A rate per direct labor hour.

(c) A rate per unit of production.

The cost reduction possibilities of standard burden rates are tied up largely with the commodity profit and loss statement which presents in final form the profit or loss picture for each major commodity sold. Unabsorbed burden is shwon therein separated into that portion due to spending more than the budget allowed and the portion due to idle plant facilities. While manufacturing expense is controlled as a whole through the manufacturing expense budget, the commodity profit and loss statement, if properly set up, serves to call attention to the need of additional pressure to be brought to reduce expense in connection with the manufacturing of certain commodities. In other words, commodity profit and loss serves to shed additional light on the matter of expense controls and from a different angle as compared to the expense budget, thus permitting closer control of expense than is possible through the use of the manufacturing expense budget alone.

The application of standards to selling and general administrative cost is subject matter of sufficient breadth and importance to warrant treatment under separate heading. That standards permit of a practical application to selling and administrative expense has been proved by the fact that successful installations are in existence in many businesses to-day, both large and small.

Standard costs are ideally adapted for the purpose of inventory valuation, first, because they are constant; second, because they represent the cost that should be incurred in a well-managed concern from normal operation under efficient conditions.

The fact that standard costs are constant insures uniformity in the valuation of inventories and the costing of sales, thereby permitting operations to be more readily compared, one period with another.

Since our standards represent the cost that should be attained under normally efficient operating conditions, their use for valuation of inventory eliminates the inclusion of such items as the effect of poor judgment in the purchasing of materials, inefficiency in the utilization of material and labor, excessive scrap loss, idle plant cost, etc., which are usually incorporated in inventories of process and finished stock that have been valued at actual cost.

The determination of the total purchase variance on all material received into inventory during the month is merely a matter of applying the standard purchase rates to a summary of the reciepts for the month and comparing the figure thus obtained (item for item) with the actual cost, the difference being the purchase variance.

From this record, a report can be drawn off to show the management the purchase variance with respect ot each item of material taken into inventory during the month. Thus the management is able to secure at a glance the effect of price variance on operations, both present and future.

The determination of that portion of the total purchasing variance which should be applied against operations for the current month need be given consideration only in those instances where it is customary to purchase materials somewhat in advance of their actual use. Each case will, of course, require careful study and individual treatment, to the end that some simple system of record keeping be installed which will permit an equitable allocation of the purchase variance to operations.

Material utilization variances are determined by applying standard usage or invnetory rates to a summary of the actual material usage and comparing the result with that obtained by costing out the summary of units produced at each operation at the standard material cost.

In presenting a statement of material utilization variances to assist the management in the control of operations, it is important that material utilization variances be shown as separate and distinct from manufacturing scrap variances.

Direct labor efficiency variance, or the difference between the standard labor allowance and the actual direct labor payroll, for each operation, is obtained by applying standard labor rates to a summary of units produced and comparing the result with the direct labor payroll.

The frequency with which statements of material utilization and direct labor efficiency are submitted to management, depends largely upon the detailed conditions incident to the individual business. In some cases such statements are submitted on a daily or weekly basis and again on a monthly basis. Statements of direct labor efficiency, in some instances, are submitted more frequently than statements of material utilization efficiency, due to the greater effort involved in the development of material variances.

In a business of fair size where labor standards are subject to constant revision throughout the year, if the statement of direct labor efficiency is to be of value for assisting the management in the control of operations, the actual operation results should be measured against the current operating standards, rather than against the standards which have been set at the beginning of the period. To meet the full requirements of a situation of this kind, therefore, it may be necessary to furnish the management with auxiliary data to assist in gauging the efficiency of current operations. To revalue inventories of process and finished stock continually to the basis of current operating standards is obviously impractical; therefore, additional accounting effort is necessary in order that the inventory may be valued at a constant standard, and at the same time enable the management to determine the true degree of efficiency with which the plant is operating.

While it is necessary from the standpoint of the control of operations, to develop and publish in report form the material utilization and direct labor variances are to be charged to operations is subject to some diversity of opinion.

It is held by quite a few accountants that variances should be charged to operations as the goods are sold rather than as they are made.

While the writer does not generally share this viewpoint, undoubtedly there are businesses of a highly seasonal nature in which the variances incurred at certain times of the year are out of all proportion to the sales, in which case additional accounting effort may be justified in order that the operations of one period may be readily compared with those of another. However, the writer does not agree that the accounting procedure need be as elaborate as that outlined by some writers, but rather that the procedure should be cut short by some method, such as relating the total of the variances incurred (at all operations) to the total units produced and charging the variances to operations as the units are sold.

Since standard costs represent the cost that should be attained in a well organized plant operated at normal capacity, they are ideally suited for furnishing information as to costs of manufacture, which will enable the sales department properly to price its products to the trade.

The use of standards eliminates the necessity for innumerable factory tests, which are otherwise required to provide the basic data for the building of cost estimates for the sales department. Cost estimates based upon factory tests or past average are bound to vary more or less and may in no instance represent the cost that should be attained under normal operating conditions.

Present economic and competitive conditions make it more imperative than ever that estimates be furnished to the sales department with the least possible delay. With standards available for all operations, it is possible, in most cases, to furnish cost estimates on new products or special orders almost immediately and without having to wait for the results of factory tests or having to resort to the questionable expedient of using the so-called best judgment of the various foremen in the factory as the basis for the cost estimate.

The acceptance of standards as cost and their use therefore in the books of account as the basis for the regular closings not only requires less accounting effort but serves to put each closing on a uniform and therefore comparable basis. When standards are used as the basis of monthly closing, it is possible so to construct the statement of commodity profit and loss as to show the profit and loss which should have been attained from efficient operation at normal capacity and then bring out in the clear the reasons why this profit and loss was not forthcoming, with responsibility for any adverse results being clearly shown on the report itself. Intelligent comparison is not possible under the job-order or process-cost plan as here we merely compare one actual cost with another without really knowing in either case just what the cost really should be.

One of the salient features of the use of standards for monthly closings is the ease and speed with which such closings can be made. The adoption of punched-card accounting, or the use of tabulating equipment in conjunction with the use of standards as the basis for monthly closings, affords still greater opportunities for speed in the preparation of the monthly reports, as well as the possibility of securing various analytical and

subsidiary reports with but a fraction of the cost of compiling such records by hand.

Considerable work is attendant to the changing or refiguring of standards. Not only is it necessary to refigure the standards for each operation and build up new standard cost sheets for each type, grade, size, etc., but it is necessary to apply the new rates to the inventory of raw stock, work in process, and finished stock, a process which involves considerable detail effort.

In view of the tremendous volume of detail involved, it is imperative that standards be set for the longest possible period, preferably for the length of an accounting period such as six months or a year.

Standards developed and applied in a practical manner are an indispensable factor in modern industrial accounting and have proved their value as a means for the attainment of closer managerial control in industry. While a number of the principal uses for standards have been outlined in the foregoing, it is my opinion, that even if the sole use made of such standards was the measurement of operating efficiency, the benefits accruing through better control of operations alone would be sufficient return for the effort involved in building and applying the standards.

The opinion seems to prevail in some quarters that the adaptability of standards is confined to certain types and sizes of business. That this is a most erroneous opinion is readily proved by the fact that a survey of the industries in which standard cost systems are installed to-day includes businesses of all sizes and types, ranging from large to small and from the simple to the complex.

To those of you who are already familiar, either wholly or in part, with the advantages of standard costs, it is hoped that the foregoing, based as it is upon practical experience rather than unproved theory, will serve to strengthen your belief in the value of "standard costs" as an aid to management. To those of you who have not seen fit as yet to employ standard costs in your particular business, I would recommend your giving most careful study to their adoption, in order that you too may participate in the many benefits which accrue to modern management from their use.

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Building Construction Costs.

The Australian Accountant. July.

A very complete article, together with forms used in costing in the building construction industry. By W. A. Hall, A.A.A., A.I.I.S.

Cost Accounting For Airplane Production.

N. A. C. A. Aug. 1st.

Accounting For Air Transportation.

N. A. C. A. Aug. 1st.

Two very instructive articles on cost accounting, in a new and very complex industry. Both show the many difficulties to be surmounted, and contain much valuable information, especially to those engaged in a similar industry.

A Method For Classifying and Accumulating Material Used Data.

N. A. C. A. Aug. 15th.

Deals with accounting for material used, and is very complete and well written, and although specifically designed to cover materials used, the method can doubtless be applied to other fields in accounting, product costing, sales analysis or payroll accounting.

Stationery and Printing Costs.

The Accountants' Magazine. August.

A short article, dealing with the reduction in the cost of printing and stationery by purchasers.

Problems Arising In Cost Installation.

The Cost Accountant. August.

Deals with the many problems arising in the installation of a cost system, and is of real value to those engaged in this type of work.

Cost of Production as a Basis for Price Fixing.

Journal of Accountancy. September.

An exceedingly fine article on a subject of real interest, not alone to those affected by the Robinson-Patman act, but to executives and cost accountants generally.

New Developments in Controlling Labour Costs.

N. A. C. A. Sept. 1st.

An Application of Measured Day Work.

N. A. C. A. Sept. 1st.

Measurde Day Work or Wage Incentives?

N. A. C. A. Sept. 1st.

Three very fine articles on subjects of real interest in these oays of comparative labour unrest. These articles show that labour costs can be controlled despite the fact that in many industries wages are more or less fixed. In order these articles give a discussion of the newer developments in controlling labour costs, a comparison of measured day work with incentive plans and a case study dealing with an application of measured day work.

A Montreal Chapter Director

(From The Credit Men's Journal. August, 1938.)

Presenting Mr. Thos. Ashworth, M.C.I., secretary-treasurer and credit manager of Lymans Limited, Montreal.

"Tom" (like many another "Tom" down the ages), drew his first breath in English air. He was educated at public and technical schools, coming to Canada in his early youth. He was overseas in the Great War with the Canadian Engineers.

"Tom" is an active member of the Canadian Society of Cost Accountants and Industrial Engineers, and is a director of that body. He was recently appointed to the board of governors of the Quebec division of the Association, and holds a members' degree in the Canadian Credit Institute.

A devoted family man, and in addition to a charming wife, has two daughters and one son.

Whenever he can break away from business, he enjoys a game of golf, and in winter takes to alley bowling.

He is an enthusiastic supporter of the Association, and in his business relations has the happy faculty of getting things done. Despite the calls made upon his time, "Tom" is one of those gentlemen who is always ready to extend a helping hand to others of the credit fraternity in any problems that require to be solved.

Those who are privileged to know "Tom" intimately have only goodwill and good wishes for him and his family in the days that lie ahead.

Montreal Secretary Resigns

Mr. H. S. MacNeice, who for many years has been secretary-treasurer of the Montreal Chapter, has resigned, owing to extreme pressure of his own work with the Montreal board of trade, and his successor, in the person of Mr. J. LeM. Carter, has been appointed.

That Mr. MacNeice will be missed goes without saying. We have had the extreme pleasure of meeting him personally, and of working with him over a period, and no Chapter secretary could be more efficient or give greater co-operation, both as regards his Chapter or head office. It is with extreme regret that we learn of the resignation of Mr. MacNeice, but it is good to learn that he will maintain his interest in the Montreal Chapter, and the Society.

Mr. Carter has a difficult position to fill, difficult because it has been filled with such extreme efficiency and courtesy by his predecessor, but we welcome him as a fellow worker, and we are confident that, with the wholehearted support of the members and directors of the Montreal Chapter, he will prove to be as efficient and courteous as Mr. MacNeice. So far as this office is concerned, we already count him as a valued friend.

Forum Section

To The Editor.

Dear Sir,—

In the May issue of "Cost and Management," a member asked for information concerning the switching of his company from a piece-work system of wage payment to a day-work system.

I have been wondering if any member has replied to this query, and have hesitated somewhat to do so myself, owing to my comparative lack of experience along these lines.

It does seem to me, however, that the fundamentals of the previous wage incentive plan in existence at that plant must be used as a basis for the new day-work system, and you will note that I say "basis."

Whatever the reason for the change, there must be some measure of control as, in my somewhat limited experience, day workers are inclined to slack unless the supervision is more or less rigid.

Could not the time studies used in connection with the incentive plan previously in vogue be used as a basis for the determination of day-work hourly rates, and the amount of work to be done in a given period?

Obviously, some measure must be used for the basis of both rates, and supervision and workers cannot be allowed to go consistently below such a measure, assuming, of course, that it is a fair measure.

There are, of course, systems of measured day-work of which I know very little, and I am writing with a view to assisting if possible Company "RX" and perhaps, at the same time, start discussion which may assist more of our members, including myself.

Very truly yours,

"MAPLE LEAF."

Takes the Plunge

An old friend, in the person of Harold Wright, a past president of the Society, past chairman of the Hamilton Chapter, and a present director, both of the Society and the Hamilton Chapter, takes the plunge into the sea of matrimony on September 24th, when he takes to the altar Miss Edith Walker of Hamilton.

Despite all the advice his friends have heaped upon him, and the pleas of these same friends, most of them with considerable experience, Harold still insists on "going through" with it, and the directors of the Hamilton Chapter are seriously alarmed lest he may find it more or less impossible to attend the meetings of the Chapter, once his status is changed.

Seriously, however, few members have given more to the Society than this blushing bridegroom, and officers, directors and members of the Society generally will wish he and his bride long life and happiness.

SITUATIONS WANTED

Young man, at present employed, is desirous of obtaining a position that will offer an opportunity for advancement. Experience with London, England, firm of general merchants and four years with manufacturing concern in Canada. Accounting, shorthand and typing, calculating operations and all general duties. Some cost experience. Apply Box 19, "Cost and Management."

Young man, at present engaged, desires position of Cost Accountant in Toronto or vicinity, with opportunities for advancement. Has had several years' practical experience as Cost Accountant, is well qualified and is at present studying for second year Society examinations. Apply Box 26, "Cost and Management."

Young man, with Collegiate Institute, Normal School and University education, and with experience in Business Management, General and Public Accounting, in addition to Cots Accounting, is at present disengaged and seeks position with a sound organization. Apply Box 18, "Cost and Management."

Young man, studying for C. P. A. degree, at present engaged, but is desirous of a change. Seeks position with good company where there is an opportunity to grow. Has had several years' experience in Public Accounting and Industrial Accounting. Some cost experience. Would prefer position in vicinity of Hamilton or Toronto. Apply Box 30, "Cost and Management."

Young man, married, seeks position as Accountant with Commercial or Industrial Company. Several years' experience in Life Insurance and Commercial Companies. Aat present located in Eastern Ontario, but would go anywhere for suitable position. Apply Box 31, "Cost and Management."

Young man, at present employed as Cost Accountant in manufacturing firm and with seven years' experience as Accountant and Cost Accountant, desires change. Position as Cost Accountant sought with responsible company, preferably in Hamilton area but not essential. Time study and production control experience. Capable of taking charge. Apply Box 33, "Cost and Management."

Accountant, thoroughly versed in Cost, Industrial and Public Accounting, seeks position where experience and ability will be rewarded with permanent position. Has had nineteen years' experience and has held positions as Office Manager and Secretary-Treasurer. Distance no object if position is secure. Apply Box 34, "Cost and Management."

Welfare Plans of Canadian Industries Limited

Recently Canadian Industries Limited amended their Vacation Plan for Pay-roll Employees and the Co-operative Savings Plan. The amended vacation plan extends the vacation period to two weeks after one year's continuous service at April 30th, and employees having six months' such service become entitled to one week's vacation. Under the plan as originally adopted in 1935, pay-roll employees were given one week's vacation each year. The plan has been in effect each year since its adoption.

A Co-operative Savings Plan is successfully carried on by this Company.

Hospital Insurance Plan

The employees of the Burlington Steel Co., Limited, Hamilton, Ont., have affected through an insurance company, a plan which provides for the payment of hospital expenses.